

Joint Concept Development at Joint Forces Command

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WITH POLITICAL certainties no longer certain and technologies of war and peace progressing faster than ever before, rapid changes characterize today's world, and bring dangerous new threats to the Nation's security. U.S. adversaries continually and rapidly adapt to contest U.S. military superiority and support developments unfavorable to American interests. The United States does not have the luxury of extended time lines to construct new military capabilities. U.S. military forces must be intellectually and substantively agile enough to adapt to change faster than their adversaries.

To attain this agility, America must experiment with novel concepts and construct an environment of experimentation that rapidly identifies new challenges and opportunities and examines lessons learned from U.S. military operations worldwide. The U.S. military must identify options to further explore through wide-ranging "discovery" experiments in hypothetical crisis situations. Robust follow-on experimentation using detailed hypotheses will ensure that the capabilities observed in the experiments are, indeed, the right ones, and rapid prototyping will place capabilities in the hands of warfighters to obtain their feedback before more major investments in time, resources, and intellectual capital.

Each of the services, combatant commands, and defense agencies must adjust to changing circumstances to field the best capabilities. U.S. Joint Forces Command (USJFCOM), in particular, must bring together new ideas from throughout the U.S. military through joint concept development and experimentation (JCDE). By rigorous and sustained testing of new ideas, USJFCOM will ensure that future U.S. forces will be relevant instruments of national power to protect the Nation.

JCDE will provide a body of evidence of which senior military leaders can base decisions to allocate

scarce resources of time, personnel, and money. USJFCOM has developed a joint concept development (JCD) path to—

- Provide observations, insights, and actionable recommendations from experimentation results to senior leaders to inform them of options for future force investments from 2015 to 2020.

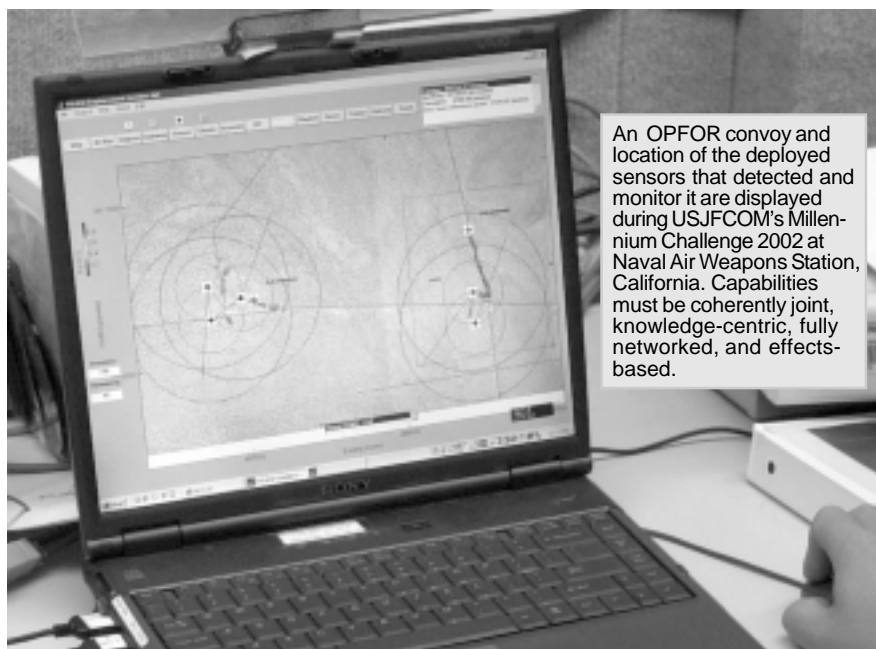
- Provide recommended solutions to important questions that military leaders confront every day.

Insights and observations, in the form of program, budget, or experiment recommendations, will help decide whether to refine a concept, transfer it to prototype development, or stop work on it altogether. The concept-development path at USJFCOM is the leading edge of joint military experimentation and the first step in a rigorous program to answer questions concerning priorities and capabilities that require investment. Concept development provides the intellectual backbone that allows advocates of change to say with some authority that multiple paths have been explored and that differing ideas have competed, contrasted, or been amalgamated to create a body of evidence for decisions about configuring the joint force.

JCD Path

The JCD path encompasses conceptual development activities and experiments through 2005, allows USJFCOM to integrate its experiments with the efforts of other U.S. services and combatant commands, and arranges Department of Defense (DOD) concept experimentation efforts in time and space.

Through the crafting of scenarios, wargame venues, and the competition of concepts for future military operations, the JCD path creates an environment in which to test these new ideas and allows USJFCOM and the services to develop concepts within a common, joint frame of reference. This frame of reference allows DOD to determine



future joint requirements in a collective way before acquiring actual capabilities. The shared, collaborative investigation will result in a shared understanding of the future joint environment and the development of the coherently joint capabilities that USJFCOM describes as “born joint.”

Developing “born joint” military capabilities is an important shift in perspective. Instead of welding together each service’s capabilities after they have already been developed, joint capabilities are explored from the beginning of the force-development process. This new vision of jointness—as the coherent integration of forces rather than deconfliction after the fact—allows senior decisionmakers to preclude, rather than resolve, interoperability problems by building capabilities that are joint at the outset.

The JCD path provides this perspective by framing military challenges in a joint context—a common set of intellectual tools that can be used throughout DOD for all military experimentation. The joint context includes several significant elements:

- ▣ A common set of issues that senior military leaders and joint warfighters in need of solution identify.
- ▣ A discourse of concepts that highlights the unique strengths and shortcomings of operational-level concepts that the joint staff, USJFCOM, and each of the services develop.
- ▣ A shared set of scenarios reflecting challenging strategic and military problems.

These elements of the joint context ensure that USJFCOM evaluates joint service concepts against a common backdrop so each is appraised on simi-

lar terms. The joint context includes interagency and multinational perspectives and participation, reflecting the notion that integrating joint, interagency, and multinational elements is (and will continue to be) an essential consideration for the warfighter.

By using experimentation to inform professional debate concerning the military capabilities in which the Nation should invest, the JCD path provides a valuable service in the search for new warfighting concepts and capabilities. USJFCOM organized its experimen-

tal efforts along a single path up to and including the major joint warfighting experiment Millennium Challenge 2002 (MC02), but as experimental concepts and capabilities matured, a single unified effort could no longer contain the multitude of efforts. One of the most important outcomes of the MC02 was the decision to split the single path into two parallel but related efforts.

The second path, the joint prototype path, focuses on transferring ideas into actual capabilities to deliver to combatant commanders and addresses specific short-term (1 to 2 year) operational shortcomings. Splitting the single path into two allows USJFCOM to simultaneously explore longer-term issues on the JCD path while working to deliver capabilities to the field for more immediate requirements. The joint prototype path focuses on providing specific warfighting capabilities to operational commanders in the near-term. The JCD path focuses intellectual effort on conditions well beyond the current procurement horizon and on transcending current capabilities—even those being developed on the joint prototype path.

Going beyond the 7-year procurement horizon in the JCD allows USJFCOM to experiment more comprehensively with the balance of joint forces. By not constraining experimentation to currently available or programmed forces, the command can experiment with the correct mix of capabilities rather than focus on specific platforms or forces.

The 2007 date for MC02 was exactly right for that experiment, but the JCD path must now focus concept development farther into the future to describe in a relatively and constrained manner the

capabilities the military will require so that new purchases can be rationally allocated to address joint warfighting requirements. The focus beyond 2007 does not mean that if the experimental process uncovers something of immediate utility that it will be left until 2015 just because it resides on the future path. If the command comes across a capability with immediate potential it can transfer it to the joint prototype path and develop it sufficiently to place the capability in the hands of warfighters as soon as possible.

Conceptual Perspectives

Joint Vision 2020 sets forth four key capabilities of the future joint force: dominant maneuver, precision engagement, focused logistics, and full-dimensional protection. JFCOM's conceptual work complements that vision and describes how the joint vision force would operate. Experimentation focused on four characteristics of future joint operations based on the four key Joint Vision 2020 capabilities: coherently joint, knowledge-centric, fully networked, and effects-based. These descriptive indicators of the character of transformed U.S. military operations are conceptual development efforts at USJFCOM and encourage the development of even more detailed concepts. Experimentation has refined and validated these concepts, which were further advanced into prototypes by building the physical hardware and networks and writing the associated tactics, techniques, and procedures that make them work. Prototypes such as the standing joint force headquarters and subsidiary capabilities such as the operational net assessment are now undergoing further experimentation in the field.

USJFCOM is also developing new organizing principles for joint experimentation. The characteristics of future joint operations reflected a vision of transformed military capabilities, but the command needed newer challenges to develop even more advanced concepts. In a joint mission area analysis, USJFCOM surveyed joint warfighters, including the joint staff, regional combatant commanders, and the services. USJFCOM asked joint warfighters to describe the most critical warfighting issues they felt were in need of joint solutions. The command received over 300 specific responses and strategic guidance from senior DOD leaders, distilled them into three categories that are now the organizing principles for JCD investigations. The themes are—

- Achieving decision superiority.
- Creating coherent effects.
- Conducting and supporting distributed operations.

Achieving decision superiority. Achieving decision superiority addresses generating and sustain-

ing high quality, shared situational awareness within an interagency and multinational environment to make decisions and take actions at the strategic, operational, and tactical levels necessary to make decisions and take action faster than any adversary. U.S. military superiority also depends on the degree of command centralization in a global, distributed, and fully networked environment. In challenging military environments, command structures must be flexible enough to give commanders the degree of centralization or decentralization that a specific contingency or engagement requires.

Creating coherent effects. USJFCOM's survey respondents were concerned that warfare is an increasingly integrated effort, involving all of the instruments of national power and harmonizing coalition efforts during operations. Because of this, USJFCOM must turn its attention to ensuring that the Nation configures its joint warfighting capability to create, maintain, and support the application of effects to achieve national objectives. Creating coherent effects requires the joint force to organize, plan, and train the harmonization of military, interagency, and multinational activities at the strategic, operational, and tactical levels against any type of adversary—from conventional enemies to those who operate on the cusp between combatant and criminal activity.

Conducting and supporting distributed operations. This category includes how to plan, prepare, and execute operations simultaneously in multiple theaters and across widely distributed points of action within each theater. The joint force must have this capability against adversaries actively working to deny access to the area even if the theaters lack robust infrastructure. Distributed operations inhere an ability to deploy, fight, command, and sustain forces while maintaining pressure on an adversary. The joint force must deny the adversary sanctuary from which to operate while protecting U.S. forces.

These three categories are the lens through which USJFCOM will analyze and evaluate experimental operational concepts in the JCD path. A larger number of specific questions that address the most difficult problems the warfighter faces today lend themselves to focused experiments within these three categories. USJFCOM will explicitly focus on 9 of these 18 questions over the next 2 years, using common scenarios and alternative operational concepts such as the Joint Operations Concept (JOpsC).

Wargames and experimental venues along the JCD path (such as Pinnacle Impact 2003) explored these questions at JFCOM and in partnership with sister services during co-sponsored experimentation events, such as the Army Transformation Wargame (*Unified Quest*), and the Navy Global Wargame



A rough terrain telescopic forklift Millennium Military Vehicle (MMV). Even if theaters lack robust infrastructure, the joint force must have the capability to plan, prepare, and execute operations simultaneously against adversaries actively working to deny access.

(*Unified Course*). Although no particular event will solve all or even most of the questions, the JCD path will allow USJFCOM and its partners to explore specific challenges in a building-block approach. Smaller pieces will be assembled into a growing structure of transformed warfighting capabilities.

A Discourse of Concepts

In 1915, U.S. Navy Lieutenant Commander Dudley W. Knox described the fundamental characteristics of an operational concept in an article titled "The Role of Doctrine in Naval Warfare."¹ The general staff of a first-class power writes army manuals. The staff prepares for the task first by exhaustively studying history, the material, political, and other conditions that confront the country, and sets forth a concept of war as the war should be best conducted. Having evolved its concept of war, the general staff formulates its major doctrines of war, which flow logically from the reasoned conception.

U.S. Army Colonel David A. Fastabend stressed this concisely when he noted that operational concepts should describe current problems of warfare and propose solutions to them.² Interlocutors should have a "eureka" moment when they comprehend how linking tactical activities and capabilities in time and space achieves strategic and political goals.

Today, the joint staff is responsible for the vision of future joint warfare and solutions to the challenges that future adversaries present. The JOpsC is the joint staff's new integrating vision for operations. The JOpsC under consideration will provide a blueprint for the operation of joint forces and provide a trial solution for operational challenges.

The JOpsC includes several subordinate concepts that address areas such as major combat operations, stability operations, strategic deterrence, and homeland defense. USJFCOM's JCD path will help joint staff develop the JOpsC. In joint experimentation, the JOpsC is the "base case" operational construct for JCD path events. However, it is not the only case.

Four other concepts, including the services' and USJFCOM's operational concepts will also be evaluated in experimentation events. The alternative concepts facilitate professional debate and ensure that a range of future concepts and capabilities are assessed and that the Nation pursues, develops, and invests in the best possible ones. USJFCOM and service-developed concepts support and inform the joint staff's vision. All concepts are included in the discourse and are considered alternative solutions to the JOpsC, including the Navy's operating concept, the Army's air/

ground concept, USJFCOM's concept of cooperative pressure, and the Air Force's concept of decisive, coercive operations.

The purpose of the alternative cases is not to replace JOpsC, but to act as foils to inform the development of the JOpsC concept. When the concepts are evaluated in wargaming, the perspective is not one of competition but of discourse. Each service, the joint staff, and USJFCOM bring unique perspectives and competencies to the joint fight. A conversational approach can produce more than conflict over which particular approach is better. It is risky to rely on a single solution when developing the concepts that will drive future military strategy. An experimental program possessing analytical rigor must have more than a single case to study.

The concept that USJFCOM will contribute in the JCD path is titled "Cooperative Pressure: An Operational Concept for an Uncertain Strategic Environment," and is based on insights and findings bred from joint concept development and experimentation efforts since MC02.³ The concept presents a uniquely joint perspective on military problems and offers a vision of warfare that focuses on making the U.S. military more adaptable and flexible than its adversaries regardless of location or circumstance. In USJFCOM's concept, the U.S. military will place sufficient pressure on adversaries at strategic, operational, and tactical levels so they will believe they have no option but to accede to U.S. will.

The services will also contribute operational perspectives to the JCD path effort. The Army's operational concept focuses on the synchronization of land and airpower. The Navy and Marine Corps'

concept relies on the insights discovered during the Sea Power series of experiments (Sea Strike, Sea Shield, Sea Basing), as well as specific advances in conducting expeditionary maneuver and network-centric warfare. The Air Force will provide its decisive, coercive operations concept, which will give the joint force commander options to rapidly disrupt, destroy, or deny critical adversary capabilities. The services' and USJFCOM's concepts will be part of the experimental dialog and result in a better product. The services will have to fight their concepts within a common joint context, and a stronger appreciation of service-specific capabilities will influence joint concepts.

Because the concept development path explores alternative joint concepts from the conceptual perspective of the joint staff, each service, and USJFCOM, the JCD path does not rely on a single solution on which to base its recommendations to senior leadership. The one-point solution runs the risk of a single point of failure. USJFCOM will submit the pressure concept to scrutiny during each experimental venue and offer the parts that show promise to the joint staff to augment the JOpsC. Developing multiple concepts in this way is not duplicative. It strengthens the product that will eventually emerge to govern future military operations.

Scenarios and Events

Operational-level military forces put each concept through its paces. Each scenario focused on significant questions that U.S. forces expect to face. USJFCOM will craft vignettes from the scenarios for use in specific events to illustrate experimental questions.

The four scenarios for the JCD path encompass the full range of military operations. Operating concepts derived from the JOpsC serve as the base case for each scenario. Each event along the JCD path will match a warfighting issue with a scenario to see how each concept fares in solving the specific problem. Experimentation will use the scenarios to spotlight specific problems and use the differing approaches of the alternative operational concepts to solve them in different ways. The scenarios include—

- Operations in a faltering or failing state that has a regional weapons of mass destruction (WMD) capability.
- Operations against a nonstate actor with significant regional combat capabilities, access to WMD, and ties to global terrorist organizations.
- Urban operations in a large city.
- Large-scale conventional combat operations against an enemy with global WMD reach and significant anti-access capabilities.

Although each scenario is significantly different, each poses problems for the operational commander in how to achieve decision superiority, create coherent effects, and conduct and support distributed operations. Precision, command and control, and access problems concerned regional combatant commanders when USJFCOM surveyed them. USJFCOM constructed these challenging scenarios to bring specific issues within these categories into focus and drive military experimentation toward prototype solutions.

The interaction of new concepts, organizational structures and military systems to gauge innovative potential are known as “discovery experiments.” These concepts will be the early focus of the JCD path. The discovery experiment will allow USJFCOM to explore how actual warfighters might employ new concepts or technologies in a challenging environment. Once the command is satisfied with the emerging potential of an idea, it can move to larger-scale experimental venues—the ultimate goal being to provide actionable recommendations on new joint warfighting capabilities to senior military leaders.

The scenarios and venues will create an environment in which joint concepts inform service concepts and vice versa. USJFCOM expects to encourage a true culture of innovation in this environment. Because the experiments are partnerships, service wargames will explore joint experimentation questions. This approach's advantage is that it is iterative: wargames can conduct multiple, subsequent events to explore the issues. Iterating experimentation and building an ever-increasing body of knowledge significantly increases confidence in the USJFCOM's recommendations on the structure of the force.

Ideas with Consequences

Improved military capabilities in the hands of U.S. warfighters will be the indicator of success along the JCD path. Creating concepts or having discussions about them, no matter how intellectually stimulating, is not the goal. Success will be measured by how well concepts with potential are distinguished from intellectual dead-ends and whether concepts having promise are developed, prototyped, and integrated into the joint force.

Good ideas with real potential must not languish. Bad ideas, or those that do not generate real improvements in military capabilities must not consume scarce financial and intellectual resources. The link between thought and action makes USJFCOM's joint concept development and experimentation efforts different from those myriad defense think tanks that explore these issues.

USJFCOM recommends only solutions that have been exhaustively explored and tested (directly to senior decisionmakers) in a coherent, consistent, and institutionalized manner. Once concepts are complete, USJFCOM gives the joint staff "transformation change recommendation packages," which include proposals for changing military doctrine, organization, training, materiel, leadership, personnel, and facilities to improve military capabilities. The packages will also suggest the needed changes in policy and culture that must take place to ensure that a culture of innovation takes hold.

These often far-reaching packages must be based on rigorous examination and an extensive body of evidence to increase the confidence of senior leaders in the accuracy of the recommendations. USJFCOM's recommendations must provide guidance on programming and budget decisions, and direction regarding whether to refine concepts further, move them to the prototype path, or stop work on them altogether.

Maintaining the momentum for change is important. USJFCOM must work to continually improve concepts under development and move them to operational reality. At times, solutions will either not work or not generate the improvement required for operational fielding. When this sort of evidence is collected, USJFCOM also counts it as an experimental success. Even failures will give the U.S. military important information about the investments it must make and allow it to save resources.

In addition to transformation recommendation packages, with their observations, insights, and actionable recommendations to senior leaders, USJFCOM can move concepts directly into prototype to answer combatant commanders specific concerns. As USJFCOM discovered when prototype solutions were demonstrated at MC02, commanders with real-world problems want the solution yesterday. Just because the JCD path has set its revisions for next-decade military requirements, USJFCOM must not wait or delay solutions. A



An F-117A Stealth Fighter flies over Nellis Air Force Base, Nevada, during Millennium Challenge 2002. The exercise explored how effects-based operations can provide an integrated joint context for conducting rapid, decisive operations.

USJFCOM mandate is to accelerate transformative military change. USJFCOM will implement compelling solutions as they arise by moving them immediately to the prototype path.

USJFCOM expects interaction among the concepts and within the common joint context to be surprising. Many of these surprises will contribute to better warfighting capabilities in the hands of the joint force more quickly than might have otherwise been the case. The JCD path is the way to facilitate an informed professional debate concerning the concepts and capabilities in which the Nation *could* invest, allowing the command to promote innovation and discovery to optimize future capabilities and explore alternative joint and service concepts. The debate will allow USJFCOM to achieve its ultimate goal—solving warfighters' most pressing challenges by providing the best information to senior leaders about the capabilities and tools in which this Nation *should* invest. **MR**

NOTES

1. LCDR Dudley W. Knox, "The Role of Doctrine in Naval Warfare," U.S. Naval Institute Proceedings (March-April 1915): 325-54.
2. COL David A. Fastabend, "That Elusive Operational Concept," *Army* (June 2001).
3. "Cooperative PRESSURE: An Operational Concept for an Uncertain Strategic Environment." (Publishing data unavailable.)

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